greatlearning
Power Ahead

Business Presentation

Presenter : Esteban Ordenes

Proprietary content. © Great Learning. All Rights Reserved. Unauthorized use or distribution prohibited.

Contents

1. Data Definition and perform an Exploratory Data Analysis
2. Illustration of the insights based on EDA
3. Data pre-processing
4. Data Preparation for modelling
5. Model building - Linear Regression
6. Test assumptions of linear regression model
7. Actionable Insights & Recommendations

Proprietary content. © Great Learning. All Rights Reserved. Unauthorized use or distribution prohibited.

Business Problem Overview and Solution Approach

- Core business idea
  - There is a huge demand for used cars in the Indian Market today. As sales of new cars have slowed down in the recent past, the pre-owned car market has continued to grow over the past years and is larger than the new car market now. Cars4U is a budding tech start-up that aims to find footholes in this market.
- Problem to tackle
  - come up with a pricing model that can effectively predict the price of used cars and can help the business in devising profitable strategies using differential pricing.
-

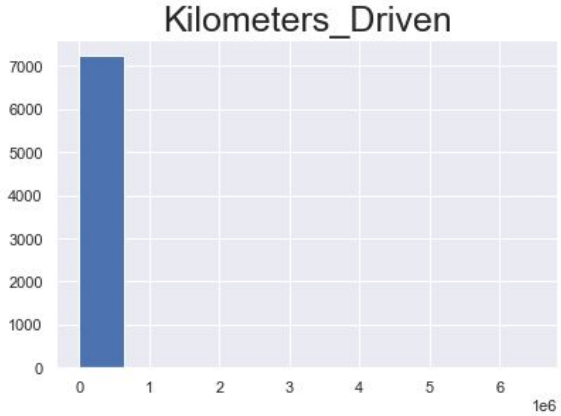
Proprietary content. © Great Learning. All Rights Reserved. Unauthorized use or distribution prohibited.

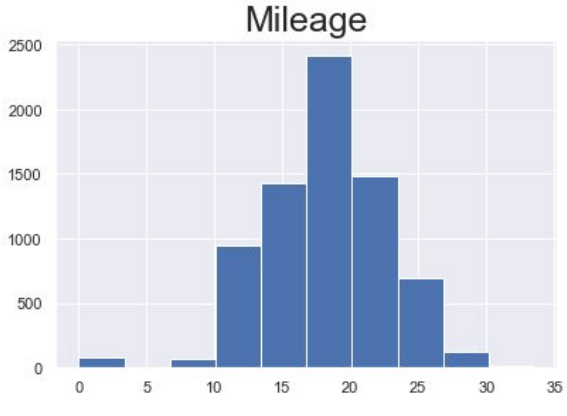
Data Overview

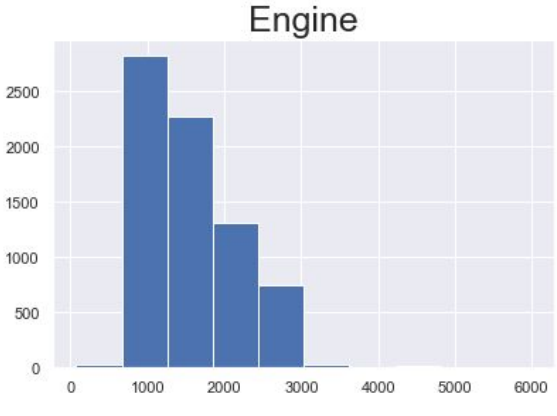
- Brief description of data provided
  - Name : Name of the car which includes Brand name and Model name
  - Location : The location in which the car is being sold or is available for purchase Cities
  - Year : Manufacturing year of the car
  - Kilometers_driven : The total kilometers driven in the car by the previous owner(s) in KM.
  - Fuel_Type : The type of fuel used by the car. (Petrol, Diesel, Electric, CNG, LPG)
  - Transmission : The type of transmission used by the car. (Automatic / Manual)
  - Owner : Type of ownership
  - Mileage : The standard mileage offered by the car company in kmpl or km/kg
  - Engine : The displacement volume of the engine in CC.
  - Power : The maximum power of the engine in bhp.
  - Seats : The number of seats in the car.
  - New_Price : The price of a new car of the same model in INR Lakhs.(1 Lakh = 100, 000)
  - Price : The price of the used car in INR Lakhs (1 Lakh = 100, 000)

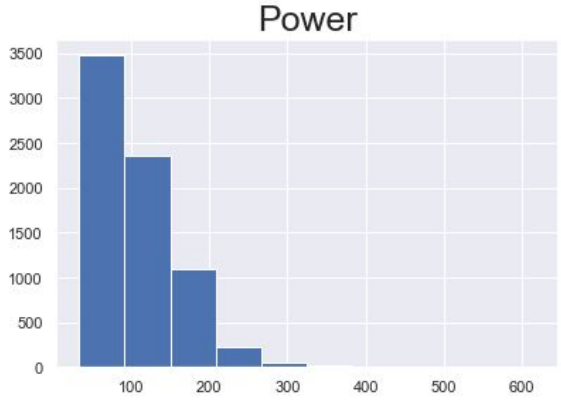
Proprietary content. © Great Learning. All Rights Reserved. Unauthorized use or distribution prohibited.

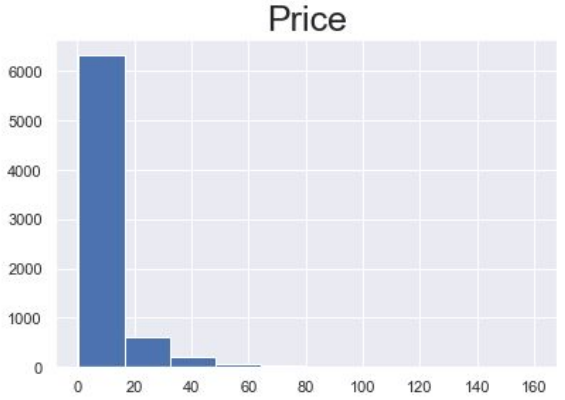
EDA





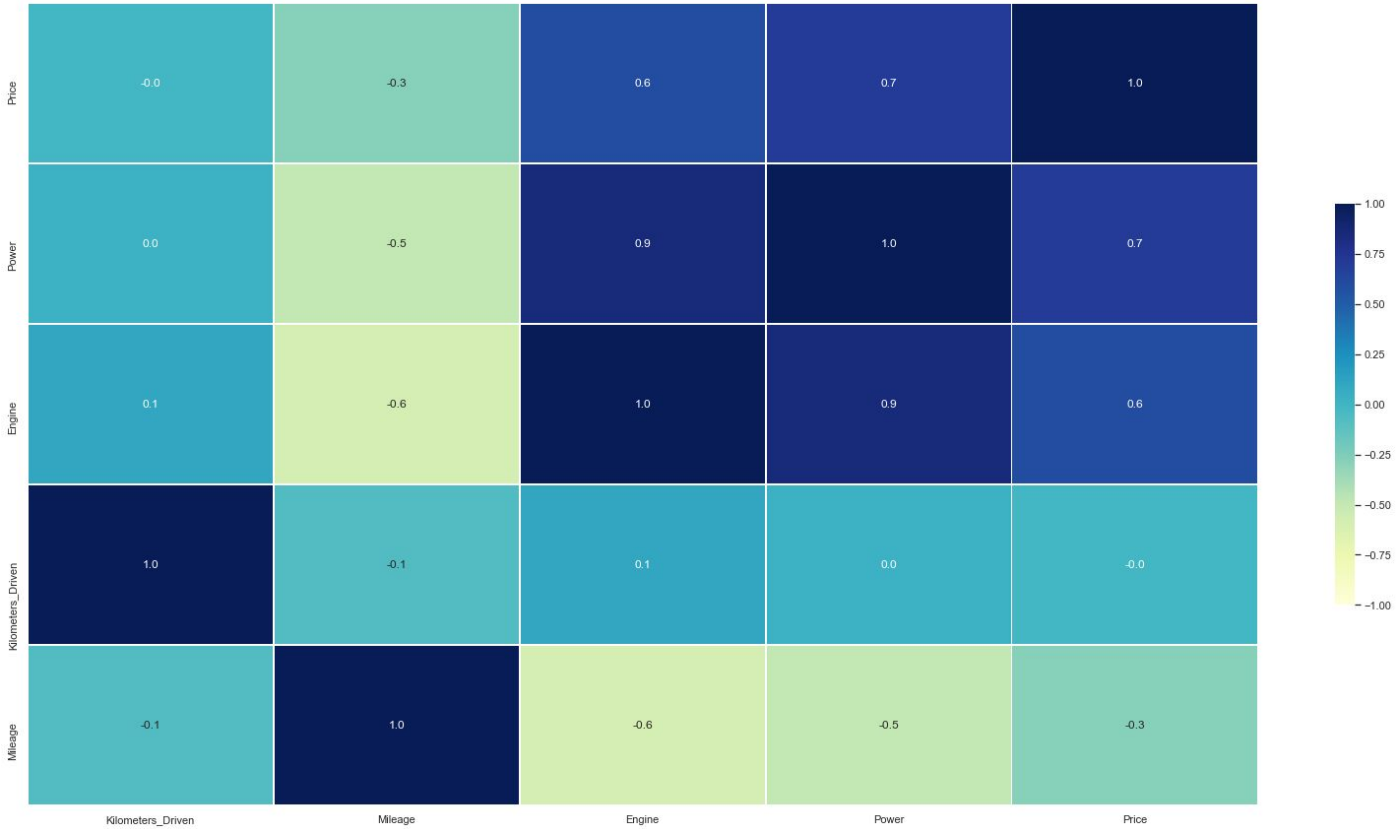






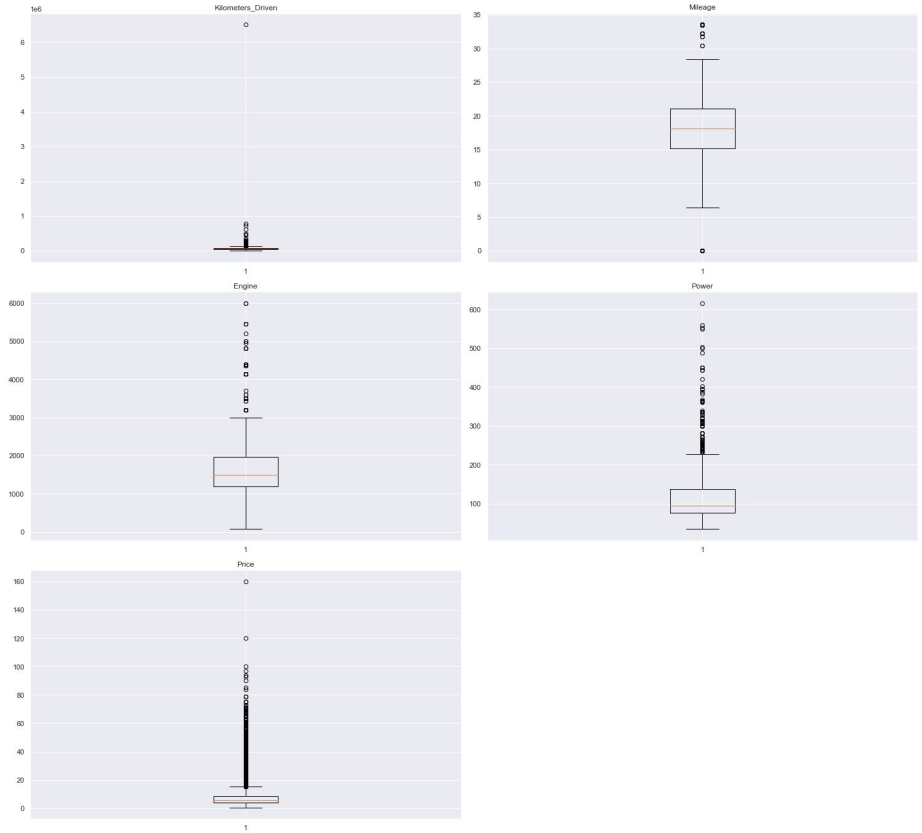
Proprietary content. © Great Learning. All Rights Reserved. Unauthorized use or distribution prohibited.

EDA



Proprietary content. © Great Learning. All Rights Reserved. Unauthorized use or distribution prohibited.

EDA



Proprietary content. © Great Learning. All Rights Reserved. Unauthorized use or distribution prohibited.

Model Performance Summary

OLS Regression Results

Dep. Variable:	**Price**	**R-squared:**	**0.680**
Model:	OLS	Adj. R-squared:	0.678
Method:	Least Squares	F-statistic:	315.0
No. Observations:	5077	AIC:	2.323e+04
Df Residuals:	5042	BIC:	2.346e+04
Df Model:	34		
Covariance Type:	nonrobust		

Proprietary content. © Great Learning. All Rights Reserved. Unauthorized use or distribution prohibited.

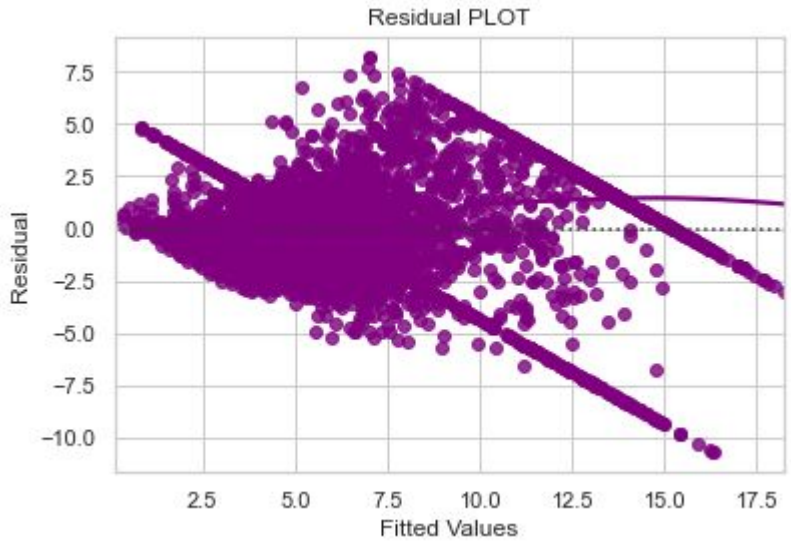
Model Performance Summary

- R-squared:
  - 0.680
- Y-Intercept (const coef)
  - 12.67
- Adj. R-squared:
  - 0.678
- F-statistic:
  - 315.0
- Mean of residuals
  - 2.249461510415297e-12

Proprietary content. © Great Learning. All Rights Reserved. Unauthorized use or distribution prohibited.

Model Performance Summary

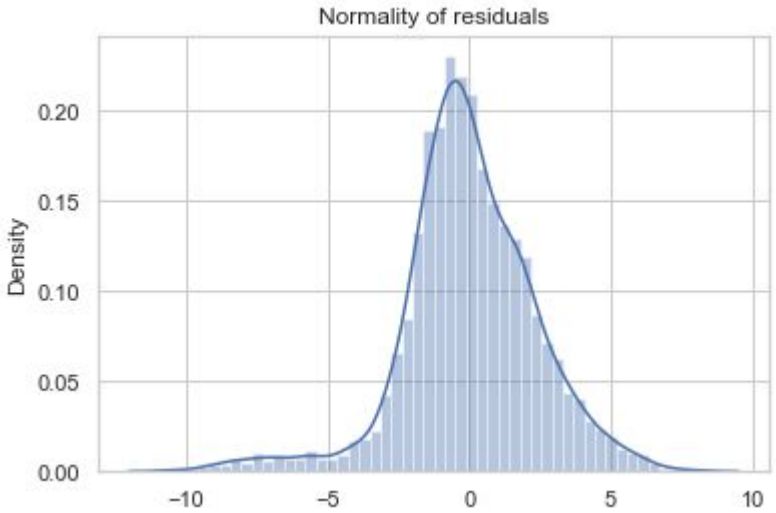
- **TEST FOR LINEARITY**



Proprietary content. © Great Learning. All Rights Reserved. Unauthorized use or distribution prohibited.

Model Performance Summary

- TEST FOR NORMALITY



Proprietary content. © Great Learning. All Rights Reserved. Unauthorized use or distribution prohibited.

greatlearning
Power Ahead

Happy Learning !